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PTO/SB/21 (08-03)

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TRANSMITTAL FORM

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Total Number of Pages in This Submission

17

Application Number

10/655,999

Filing Date

09/05/03

First Named Inventor

Eric A. Schon

Art Unit

1646

Examiner Name

to be assigned

Attorney Docket Number

5199-23

ENCLOSURES

(Check all that apply)

- | | | |
|--|---|---|
| <input type="checkbox"/> Fee Transmittal Form | <input type="checkbox"/> Drawing(s) | <input type="checkbox"/> After Allowance communication to Technology Center (TC) |
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| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | | |

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name
Todd Holmbo, Reg. No. 42,665

Signature

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6/7/04

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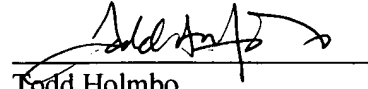
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

The Commissioner is hereby authorized to charge payment of any fees associated with this application or credit any overpayment to Deposit Account No. 02-4270.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Todd Holmbo", is written over a horizontal line.

Todd Holmbo

Reg. No. 42,665

Attorney for Applicants

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Institute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/655,999
Filing Date	09/05/03
First Named Inventor	Eric Schon
Art Unit	1315
Examiner Name	to be assigned
Attorney Docket Number	5199-23

Sheet	1	of	14
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NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Adams et al., Plant Cell, 14:931-943, 2002 (N/A)	
		Anderson et al., Sequence and organization of the human mitochondrial genome.	
		Nature, 290:457-465, 1981	
		Asamizu et al., DNA Res., 6:369-73, 1999 (N/A)	
		Asamizu et al., DNA Res., 7:305-07, 2000 (N/A)	
		Bai, et al., Lack of Complex I Activity in Human Cells Carrying a Mutation in MtdNA-encoded ND4 Subunit Is Corrected by the Saccharomyces	
		cerevisiae NADH-Quinone Oxidoreductase (ND1) Gene.	
		J. Biol. Chem., 276:38808-38813. 2001	

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		Examiner Name	to be assigned		
Sheet	2	of	14	Attorney Docket Number	5199-23

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		Boer and Gray, Transfer RNA genes and the genetic code in Chlamydomonas reinhardtii mitochondria.	
		Curr. Genet., 14:583-590, 1988	
		Breen et al., Mitochondrial DNA of Two Independent Oligomycin-resistant Chinese Hamster Ovary Cell Lines Contains a Single Nucleotide Change in the ATPase 6 Gene.	
		J. Biol. Chem., 261:11680-11685, 1986	
		Claros et al., Limitations to in vivo import of hydrophobic proteins into yeast mitochondria, The case of a cytoplasmically synthesized apocytochrome b.	
		Eur. J. Biochem., 228:762-771, 1995	
		Claros et al., Allotopic Expression of Yeast Mitochondrial Maturase to Study Mitochondrial Import of Hydrophobic Proteins.	
		Meth. Enzymol., 264:389-403, 1996	

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Sheet 3	of 14	Attorney Docket Number 5199-23	

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		Covello et al., Silent Mitochondrial and Active Nuclear Gene for Subunit 2 of Cytochrome c Oxidase (cox2) in Soybean: Evidence for RNA-Mediated	
		Gene Transfer.	
		EMBO J., 11:3815-3820, 1992	
		Daley et al., Intracellular Gene Transfer: Reduced Hydrophobicity Facilitates Gene Transfer for Subunit 2 of Cytochrome c Oxidase	
		Proc. Natl. Acad. Sci. USA, 99:10510-10515, 2002	
		Daley et al., Gene Transfer From Mitochondrion to Nucleus: Novel Mechanisms for Gene Activation From Cox2.	
		Plant J., 30:11-21, 2002.	
		Denovan-Wright et al., Complete Sequence of the Mitochondrial DNA of Chlamydomonas eugametos.	
		Plant Mol. Biol., 36:285-295, 1998	

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	Art Unit		1315
	Examiner Name		to be assigned
	Attorney Docket Number		5199-23

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		de Grey, Mitochondrial gene therapy: an arena for the biomedical use of inteins.	
		Trends Biotechnol., 18:394-99, 2000	
		Elston et al., Energy transduction in ATP synthase.	
		Nature, 391:510-513, 1998	
		Funes et al., The typically mitochondrial DNA-encoded ATP6 subunit of the F1F0-ATPase is encoded by a nuclear gene in Chlamydomonas	
		reinhardtii.	
		J. Biol. Chem., 277:6051-6058, 2002	
		Garcia et al., Protein Phosphatase 2A and Phosphatidylinositol 3-Kinase Regulate the Activity of Sp1-responsive Promoters.	
		J. Biol. Chem., 275:9385-9389, 2000	

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		Gray and Boer, Organization and expression of algal (Chlamydomonas reinhardtii) mitochondrial DNA	
		Philos. Trans. R. Soc. Lond. Biol. Sci., 319:135-147, 1988	
		Gray et al., Allotopic Expression of Mitochondrial ATP Synthase Genes in Nucleus of Saccharomyces cerevisiae.	
		Meth. Enzymol., 264:369-389, 1996	
		Gray et al., The origin and early evolution of mitochondria.	
		Genome Biol., 2:1018.1-1018.5, 2001	
		Herlitz and Koenen, A general and rapid mutagenesis method using polymerase chain reaction.	
		Gene, 91:143-147, 1990	
		Holt et al., A new mitochondrial disease associated with mitochondrial DNA Heteroplasmy.	
		Am. J. Hum. Genet., 46:428-433, 1990	

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		Hutcheon et al., Energy-driven subunit rotation at the interface between subunit a and the c oligomer in the Fo sector of Escherichia coli ATP synthase.	
		Proc. Natl. Acad. Sci. USA, 98:8519-8524, 2001	
		James et al., Decreased ATP synthesis is phenotypically expressed during increased energy demand in fibroblasts containing mitochondrial tRNA mutations, Implications for neurodegenerative and mitochondrial DNA diseases	
		Eur. J. Biochem., 259:462-469, 1999	
		John and Nagley, Amino acid substitutions in mitochondrial ATPase subunit 6 of Saccharomyces cerevisiae leading to oligomycin resistance.	
		FEBS Lett., 207:79-83, 1986	
		Kroymann and Zetsche, The mitochondrial genome of Chlorogonium elongatum inferred from the complete sequence.	
		J. Mol. Evol., 47:431-440, 1998	

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		Kubo, et al., Transfer of the mitochondrial rps10 gene to the nucleus in rice: acquisition of the 5' untranslated region followed by gene duplication.	
		Mol. Gen. Genet., 263:733-739, 2000	
		Lang et al., Mitochondrial genome evolution and the origin of eukaryotes.	
		Annu. Rev. Genet., 33:351-397, 1999	
		Law et al., Studies on the import into mitochondria of yeast ATP synthase subunits 8 and 9 encoded by artificial nuclear genes.	
		FEBS Lett., 236:501-505, 1988	
		Manfredi et al., Oligomycin induces a decrease in the cellular content of a pathogenic mutation in the human mitochondrial ATPase 6 gene.	
		J. Biol. Chem., 274:9386-9391, 1999	
		Manfredi et al., Assay of mitochondrial ATP synthesis in animal cells.	
		Methods in Cell Biol., 65:133-145, 2001	

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Sheet	8	of	14	Attorney Docket Number	5199-23
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		Manfredi et al., Rescue of a deficiency in ATP synthesis by transfer of MTATP6, a mitochondrial DNA-encoded gene, to the nucleus	
		Nature Genet., 25:394-399, 2002	
		Mariottini et al., Identification of the polypeptides encoded in the unassigned reading frames 2, 4, 4L, and 5 of human mitochondrial DNA	
		Proc. Natl. Acad. Sci. USA, 83:1563-1567, 1986	
		Nagley et al., Assembly of functional proton-translocating ATPase complex in yeast mitochondria with cytoplasmically synthesized subunit 8,	
		a polypeptide normally encoded within the organelle.	
		Proc. Natl. Acad. Sci. USA, 85:2091-2095, 1988	
		Nass and Nass, Intramitochondrial fibers with DNA characteristics.	
		J. Cell Biol., 19:593-629, 1963	

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		Noji, et al., The rotary machine in the cell, ATP synthase.	
		J. Biol. Chem., 276:1665-1668, 2001	
		Nurani and Franzen, Plant Mol. Biol., 31:1105-1116, 1996 (N/A)	
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		Application Number	10/655,999
		Filing Date	09/05/03
		First Named Inventor	Eric Schon
		Art Unit	1315
		Examiner Name	to be assigned
Sheet 10	of 14	Attorney Docket Number	5199-23

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Perez-Martinez et al., Unusual Location of a Mitochondrial Gene.	
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		Perez-Martinez et al., Subunit II of Cytochrome c Oxidase in Chlamydomonas Algae Is a Heterodimer Encoded by Two Independent Nuclear Genes.	
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		Rastogi and Girvin, Structural changes linked to proton translocation by subunit c of the ATP synthase.	
		Nature, 402:263-268, 1999	
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		Semin. Cell Dev. Biol., 12:441-448, 2001	

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		Seo et al., Molecular remedy of complex I defects: Rotenone-insensitive internal NADH-quinone oxidoreductase of <i>Saccharomyces cerevisiae</i>	
		mitochondria restores the NADH oxidase activity of complex I - deficient mammalian cells.	
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		Schuelke et al., Mutant NDUFV1 subunit of mitochondrial complex I causes leukodystrophy and myoclonic epilepsy.	
		Nature Genet., 21:260-261, 1999	

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		Tan et al., tRNAs in Trypanosoma brucei: Genomic Organization, Expression, and Mitochondrial Import.	
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		Tatuch and Robinson, The Mitochondrial DNA Mutation at 8993 Associated with NARP Slows the Rate of ATP Synthesis in Isolated Lymphoblast Mitochondria.	
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		Vazquez-Memije et al., Comparative Biochemical Studies in Fibroblasts from Patients with Different Forms of Leigh Syndrome.	
		J. Inher. Metab. Dis., 19:43-50, 1996	

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		Watanabe and Ohama, Regular Spliceosomal Introns are Invasive in Chlamydomonas reinhardtii: 15 Introns in the Recently Relocated Mitochondrial cox2 and cox3 Genes.	
		J. Mol. Evol., 53:333-339, 2001	
		Wegener and Beck, Plant Mol. Biol., 16:937-946, 1991 (N/A)	
		Zullo, S. J., Gene Therapy of Mitochondrial DNA Mutations: A Brief, Biased History of Allotopic Expression in Mammalian Cells.	
		Semin. Neurol., 21:327-335, 2001	

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